

**FIN AND FEATHER, LOT 5, AP (CRANE)
TWO-LOT SUBSEQUENT MINOR SUBDIVISION AND ONE VARIANCE REQUEST**

STAFF REPORT FOR BOARD OF COUNTY COMMISSIONERS

CASE PLANNER: John Lavey *JPL*

**REVIEWED/
APPROVED BY:** Renee Van Hoven *RV*

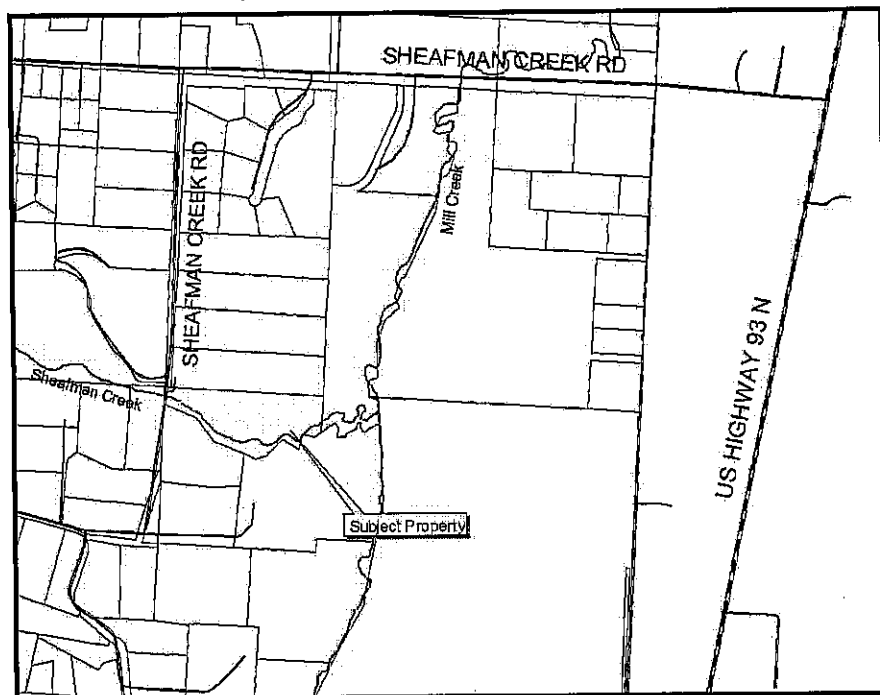
**PUBLIC HEARINGS/
MEETINGS:**

Planning Board Plat Evaluation:	Waived
Planning Board Public Hearing:	February 21, 2007
Deadline for PB recommendation to BCC:	March 7, 2007
BCC Public Meeting:	March 13, 2007 @ 9:00 a.m.
(Unless PB delays decision)	
Deadline for BCC action (60 working days):	April 23, 2007

SUBDIVIDER/OWNER: John and Julie Crane
PO Box 701
Corvallis, MT 59828

REPRESENTATIVE: Alcyon, LLC 381-1125
George Marshall
PO Box 218
Hamilton, MT 59840

LOCATION OF REQUEST: The property is located northwest of Corvallis off Sheafman Creek Road. (See Map 1)



Map 1: Location Map
(Source Data: Ravalli County Planning Department)

**LEGAL DESCRIPTION
OF PROPERTY:**

Lot 5 of Fin and Feather minor subdivision located in the SW ¼ of Section 25, T7N, R21W, P.M.M., Ravalli County, Montana.

**APPLICATION
INFORMATION:**

The subdivision application was determined complete on January 25, 2007. Agencies were notified of the subdivision and comments received by the Planning Department not included in the application packet are Exhibits A-1 through A-5 of the staff report.

LEGAL NOTIFICATION:

A legal advertisement was published in the Ravalli Republic on Tuesday, February 6, 2007. Notice of the project was posted on the property and adjacent property owners were notified by certified mail postmarked January 29, 2007.

**DEVELOPMENT
PATTERN:**

Subject property	Single family residential
North	Agricultural/Large Lot Residential
South	Agricultural/Large Lot Residential
East	Agricultural/Large Lot Residential
West	Agricultural/Large Lot Residential

INTRODUCTION

The Fin and Feather, Lot 5, AP subsequent minor subdivision is a two-lot subdivision of 11.6 acres located northwest of Corvallis. Sheafman Creek forms the southern property boundary. A floodplain waiver for Sheafman Creek was granted by the County's floodplain administrator, and a 150-foot setback from Sheafman Creek is recommended to mitigate impact on the natural environment. The property currently has water rights, and the applicant is proposing to divide the rights between the lots via a sprinkler irrigation system. There is one existing home on proposed Lot 5B. The applicant signed an indemnification agreement on December 12, 2006, thereby allowing this application to be reviewed under the Ravalli County Subdivision Regulations in place when the application was originally submitted (February 21, 2006).

The property is accessed via Sheafman Creek Road (County maintained) and Fox Run Trail (privately maintained). The applicant is required and is proposing to pay the pro-rata share for Sheafman Creek Road and improve the portion of Fox Run Trail within the subdivision to meet County standards. The applicant is also proposing to construct an internal road, Aaron's Way, to serve both Lots. Concurrent with the subdivision proposal, the subdivider is requesting a variance from Section 5-4-5(b)(1) of the Ravalli County Subdivision Regulations, which requires the paving of Aaron's Way, because the subdivision is a subsequent minor. Instead of paving Aaron's way, the applicant is proposing to pave the entire portion of Fox Run Trail on the subject property to meet County standards and is proposing to improve Aaron's Way to be a gravel road meeting the standards for a two-unit first minor subdivision.

Staff recommends conditional approval of the variance request and conditional approval of the subdivision proposal.

RAVALLI COUNTY PLANNING BOARD
FEBRUARY 21, 2007

FIN AND FEATHER, LOT 5, AP
TWO-LOT SUBSEQUENT MINOR SUBDIVISION AND ONE VARIANCE REQUEST

RECOMMENDED MOTIONS

1. That the variance request from Section 5-4-5(b)(1) of the Ravalli County Subdivision Regulations, which requires the paving of Aaron's Way to meet County standards because the subdivision is a subsequent minor, be **conditionally approved**, based on the findings of fact and conclusions of law in the staff report and subject to the conditions in the staff report.
2. That the Fin and Feather, Lot 5, AP Subsequent Minor Subdivision be **approved**, based on the findings of fact and conclusions of law in the staff report and subject to the conditions in the staff report.

RECOMMENDED MITIGATING CONDITIONS OF APPROVAL FOR THE SUBDIVISION

1. A document entitled "Notifications to Future Property Owners" that includes the following notifications and the attachments listed below shall be included in the submittal of the final plat to the Planning Department and filed with the final plat:

Notification of Proximity to Agricultural Operations. This subdivision is located near existing agricultural activities. Some may find activities associated with normal agricultural activities objectionable and dangerous. (*Effects on Agriculture*)

Limitation of Access onto a Public Road. A "no-ingress/egress" restriction exists along the Sheafman Creek Road frontage of this subdivision, excepting the approved approach for the internal subdivision road. All lots within this subdivision must use this approved approach. This limitation of access may be lifted or amended only with the approval of the Board of County Commissioners. (*Effects on Local Services*)

Notification of Road Maintenance Agreement. Fox Run Trail and Aaron's Way are not maintained by Ravalli County, the State of Montana, or any other governmental entity. Neither the County nor the State assumes any liability for lacking or improper maintenance. A Road Maintenance Agreement for these roads was filed with this subdivision and outlines which parties are responsible for maintenance and under what conditions. (*Effects on Local Services*)

Notification of Irrigation Facilities and Easements. Within this subdivision there are irrigation easements, as shown on the final plat. All downstream water-right holders have the right to maintain and repair their irrigation facilities whenever necessary to keep them in good condition. The filed subdivision plat shows the irrigation easements on the property. The downstream water rights holders must approve any relocation or alteration (e.g. installation of a culvert) of irrigation ditches/pipelines. Any act that damages or destroys a ditch, interferes with its operation or maintenance in any way, or restricts access to the ditch so as to interfere with its maintenance is expressly prohibited. The downstream water right holders have the right to use the easements to maintain the ditches. (*Effects on Agricultural Water User Facilities*)

Notification of No-Build/Alteration Zone. Within this subdivision there is a no-build/alteration zone located on Lots 5A and 5B, as shown on the plat. The no-build alteration zone on the final plat should exclude the road. No new structure, with the exception of fences, may be constructed in this area. No new utilities, may be constructed in this area. No fill may be placed in this area and the vegetation shall be retained in its natural condition. Roads, trails, and utility

crossings through this area are not permitted. (*Effects on Natural Environment, Wildlife & Wildlife Habitat, Public Health & Safety*)

Notification of "Very Limited" Soils. Within this subdivision there are areas of the property identified by the Natural Resources Conservation Service (NRCS) as potentially having soils rated as "very limited" for road construction and building sites. The approximate locations of these areas can be found on a reduced copy of the final plat. Descriptions of the severe soils in question are included as exhibits to this document [the subdivider shall include the exhibits as attachments]. (*Effects on Public Health & Safety*)

Notification of Proximity to Sheafman Creek. This subdivision is located in close proximity to Sheafman Creek. There is an inherent hazard associated with creeks, due to potential soil erosion, flooding and movement of the stream channel. It is recommended that property owners of this subdivision obtain flood insurance. (*Effects on Public Health & Safety*)

2. Protective covenants for this subdivision shall be submitted with the final plat that include the following provisions:

Waiver of Protest to Creation of RSID/SID. Owners and their successors-in-interest waive all rights in perpetuity to protest the creation of a city/rural improvement district for any purpose allowed by law, including, but not limited to, a community water system, a community wastewater treatment system, and improving and/or maintaining the roads that access the subdivision, including related right-of-way, drainage structures, and traffic control signs. (*Effects on Local Services*)

Living with Wildlife. (See Exhibit A-1 for required provisions.) (*Effects on Wildlife & Wildlife Habitat*)

Lighting for New Construction. Full cut-off lighting shall be required for any new construction within this subdivision. A full cut-off fixture means a fixture, as installed, that is designed or shielded in such a manner that all light rays emitted by the fixture, either directly from the lamps or indirectly from the fixture, are projected below a horizontal plane through the lowest point on the fixture where light is emitted. The source of light must be fully shielded on the top and sides, so as not to emit light upwards or sideways, but only allowing light to shine down towards the subject that is to be lighted. Spotlighting of flag poles shall be permitted. (*Effects on Public Health & Safety*)

Radon Exposure. The owner understands and accepts the potential health risk from radon concentrations, which are presently undetermined at this location. Unacceptable levels of radon can be reduced through building design and abatement techniques incorporated into structures. Property owners are encouraged to have their homes tested for radon. Contact the Ravalli County Environmental Health Department for further information. (*Effects on Public Health & Safety*)

Primary Heat Source. The primary heat source for the newly constructed residences in this subdivision shall be at least 75% efficient. (*Effects on Natural Environment*)

Control of Noxious Weeds. Lot owners shall control the growth of noxious weeds on their respective lot(s). Contact the Ravalli County Weed District for further information. (*Effects on Natural Environment*)

Required Posting of County-Issued Addresses for Lots within this Subdivision. The Corvallis Rural Fire District has adopted Fire Protection Standards which require lot owners to post County-issued addresses at the intersection of the driveway leading to each residence

and the road providing access to the lot as soon as construction on the residence begins.
(Effects on Local Services and Public Health & Safety)

Access Requirements for Lots within this Subdivision. The Corvallis Rural Fire District has adopted the Fire Protection Standards. All accesses, including driveways to residences over 150' in length, must have a minimum unobstructed travel surface width of 20', a vertical clearance of 13'6" and an all-weather surface that can accommodate the weight of a fire truck. Please contact the Corvallis Rural Fire District for further information. (Effects on Local Services and Public Health & Safety)

Amendment. Written governing body approval shall be required for amendments to provisions of the covenants that were required to be included as a condition of subdivision approval.
(Effects on all six criteria)

3. The subdivider shall include an RSID/SID waiver in a notarized document filed with subdivision plat that states the following: Owners and their successors-in-interest waive all rights in perpetuity to protest the creation of a city/rural improvement district for any purpose allowed by law, including, but not limited to a community water system, a community wastewater treatment system, and improving and/or maintaining the roads that access the subdivision including related right-of-way, drainage structures, and traffic control signs. (Effects on Local Services)
4. The subdivider shall provide evidence with the final plat submittal that they have applied for County-issued addresses for each lot within this subdivision. (Effects on Local Services and Public Health & Safety)
5. Prior to final plat approval, the subdividers shall provide a letter from the Corvallis Rural Fire District stating that they have provided the required 1,000 gallon-per-minute water supply or 2,500 gallon-per-lot water storage for fire protection for each lot within this subdivision. Alternatively, the subdividers may provide evidence that a \$500-per-lot contribution has been made to the Corvallis Rural Fire District with the final plat submittal in lieu of the required water supply or water storage for fire protection. (Effects on Local Services and Public Health & Safety)
6. The subdivider shall submit a letter or receipt from the Corvallis School District stating that they have received (an amount to be determined by the Planning Board)-per-lot contribution prior to final plat approval. Alternatively, the subdivider may place an encumbrance on the final plat stating that the (amount) contribution shall be made to the School District upon first conveyance, including lease or rent, of each lot. (Effects on Local Services)
7. The final plat shall show a no-ingress/egress zone along the Sheafman Creek Road frontage of the subdivision, excepting the approach for the internal road, as approved by the Road and Bridge Department. (Effects on Local Services and Public Health & Safety)
8. The subdivider shall file a master irrigation plan with the final plat that meets the requirements of Section 3-2-15 of the Ravalli County Subdivision Regulations, amended August 4, 2005, and conforms to the irrigation plan presented in the preliminary plat application. An irrigation delivery system that conforms to the master irrigation plan shall be installed prior to final plat approval. (Effects on Agricultural Water User Facilities)
9. A stop sign and road name sign shall be installed at the intersection of Fox Run Trail and Sheafman Creek Road prior to final plat approval. (Effects on Local Services and Public Health & Safety)

10. A no-build/alteration zone extending 150 feet from the ordinary high water mark of Sheafman Creek, excepting the internal subdivision road, shall be shown on the final plat. (*Effects on the Natural Environment and Public Health & Safety*)
11. The subdivider shall provide evidence with the final plat submittal that dust abatement has been applied to the internal subdivision road, Aaron's Way. (*Variance*)
12. The Road Maintenance Agreement shall include a provision stating that dust abatement shall be applied to the internal subdivision road, Aaron's Way, as needed. (*Variance*)

SUBDIVISION REPORT

COMPLIANCE WITH PRIMARY SUBDIVISION REVIEW CRITERIA

CRITERION 1: EFFECTS ON AGRICULTURE

Findings of Fact:

1. The proposed subsequent minor subdivision on 11.6 acres will result in 2 lots sized from 4.00 acres to 7.60 acres. The property is located northwest of the community of Corvallis off U.S. Highway 93 and Sheafman Creek Road.
2. The property is located in an area of residential and agricultural uses. To mitigate impacts on agriculture, a notification of proximity to agricultural operations shall be included in the notifications document filed with the final plat. (*Condition 1*)
3. According to the application, the property is not currently being used for agricultural purposes.
4. There are no soils on the property that are listed as Prime Farmland Soils or Farmland of Statewide Importance by the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS).

Conclusions of Law:

1. With the mitigating condition of final plat approval, impacts of the subdivision on surrounding agriculture will be reduced.
2. The creation of these lots will not take Prime Farmland or Farmland of Statewide Importance out of production.

CRITERION 2: EFFECTS ON AGRICULTURAL WATER USER FACILITIES

Findings of Fact

1. The application states there are water rights from Sheafman Creek associated with this property and the subdivider is proposing to divide the rights among the proposed lots.
2. To notify future property owners of the irrigation rights associated with this property and to mitigate potential impacts on agricultural water user facilities, a notification of the irrigation facilities and easements shall be filed with the final plat. (*Condition 1*)
3. There is one existing irrigation pipeline traversing the property that will provide Lot 5B with access to irrigation water, and a proposed extension of the pipeline to serve Lot 5A. The existing pipeline easement is 20 feet in width, and the extension is proposed to have a 20-foot wide easement.
4. A preliminary Irrigation Agreement and Master Irrigation Plan are included in the application. The subdivider is required to show existing and proposed irrigation easements on the final plat, as shown on the preliminary plat. (Appendix E of the RCSR)
5. To mitigate impacts on agricultural water user facilities, a Master Irrigation Plan meeting the requirements of Section 3-2-15 of the Ravalli County Subdivision Regulations, (August 4, 2005) which would include a plat-sized plan and irrigation agreement, shall be submitted prior to final plat approval. (*Condition 8*)

CRITERION 3: EFFECTS ON LOCAL SERVICES

Findings of Fact:

1. It is unknown whether Sheafman Creek Road, a County-maintained road, meets County standards. If not, the subdivider will be required to pay the pro-rata share of the cost to improve the portion of Sheafman Creek Road that leads to the subdivision from US Highway 93.
2. There are two proposed single family residential lots within this subdivision. Lot 5B has an existing home. It is estimated at build-out that this subdivision will generate an additional 8 vehicular trips per day, assuming 8 trips per day per single-family dwelling.

3. Fox Run Trail, an existing privately maintained road, accesses the property and adjoining properties to the north. The applicant is proposing to construct an internal road off Fox Run Trail, Aaron's Way, to serve proposed subdivision lots.
4. Per section 5-4-5(b)(1) of the RCSR, the subdivider is required to improve the internal subdivision road, Aaron's Way, and the portion of Fox Run Trail leading to the subdivision from Sheafman Creek Road to meet County Standards for paving.
5. The subdivider is proposing to improve the entire portion of Fox Run Trail on his property to County road standards for paving, and to improve Aaron's Way to meet County standards for a two-unit first minor subdivision. Since this subdivision is a subsequent minor, paving is required, so the applicant has requested a variance. (*Variance*)
6. An engineer's certification that the portion of Fox Run Trail within the property and Aaron's Way meet County standards, with the exception as conditionally approved through the variance, is a requirement of final plat approval. The road plans have received preliminary approval by the Road Department. (*Exhibit A-4*)
7. A stop sign and street name sign are proposed on Fox Run Trail at its intersection with Sheafman Creek Road. The signs shall be installed prior to final plat approval. (*Condition 9*)
8. A preliminary road maintenance agreement was included in the application packet. The final plat application packet is required to include a road maintenance agreement that meets the requirements of the Ravalli County Subdivision Regulations in place at the time the subdivision was deemed sufficient. A notification of the road maintenance agreement shall be included in the notifications document filed with the final plat. (*Condition 1*)
9. Submittal of final grading and drainage plans approved by Montana Department of Environmental Quality (DEQ), a General Discharge Permit for Storm water Associated with Construction activity from DEQ (if required), and an approved road name petition, are requirements of final plat approval.
10. To mitigate impacts on the local road system, the final plat shall show a no-ingress/egress zone along the Sheafman Creek Road frontage of the subdivision. A notification of this limitation of access shall be included in the notifications document. (*Condition 1*)
11. According to the 2000 census, there are approximately 0.5 student-aged children per household in Ravalli County. With this subdivision, it is estimated that approximately 0.5 school-aged children will be added to the Corvallis School District.
12. The subdividers stated they will make a contribution to the School District, but did not specify the amount. The Corvallis School District provided a comment letter to the Planning Department, but did not specify an acceptable per lot donation. (*Exhibit A-3*) To mitigate impacts of the subdivision on the School District, the subdivider shall contribute (an amount to be determined by the Planning Board in consultation with the subdivider) per residential lot to the Hamilton School District. (*Condition 6*)
13. To mitigate impacts on local services, the subdivider shall apply for County-issued addresses. A provision requiring property owners to post County-issued addresses at their driveways shall be in the covenants. (*Conditions 2 and 4*)
14. Installation of all infrastructure improvements is required to be completed prior to final plat approval, which includes construction of the roads, installation of the irrigation infrastructure, and installation of the stop sign and road name sign.
15. The Corvallis Rural Fire District has adopted the Fire Protection Standards. To mitigate impacts on local services, they recommend that each home post County-issued addresses at the intersection of the driveways leading to the primary residence as soon as construction on the residence begins and construct all accesses to meet an unobstructed travel width of 20' and vertical clearance of 13'6". (*Condition 2*)
16. The subdivider shall meet the water supply requirements for the Corvallis Rural Fire District, which is a 1,000 gallon per minute water supply or a 2,500 gallon per lot water storage. Alternatively, the subdivider can contribute \$500 per lot and provide a letter from the Three Mile Fire District that the contribution has been made prior to final plat approval. (*Condition 5*)

17. To mitigate potential impacts of this subdivision on any possible future public water, sewer system, or improvements to the road system, the RSID/SID waiver filed with the final plat shall address these services/facilities. (*Conditions 2 and 3*)
18. Individual wells and wastewater treatment systems are proposed to serve the lots.
19. Bitterroot Disposal provides service to this site.
20. The Ravalli County Sheriff's Office provides law enforcement services to this area.
21. Public services are adequate to serve this subdivision.

Conclusion of Law:

With the mitigating conditions of approval and requirements of final plat approval, impacts of the subdivision on local services will be reduced.

CRITERION 4: EFFECTS ON NATURAL ENVIRONMENT

Findings of Fact:

1. The property is currently being used for a single family residence and is covered with grasses and trees.
2. To mitigate air pollution resulting from home heating emissions, the protective covenants filed with the final plat shall state that the primary heat source for any newly constructed residences must be at least 75% efficient. (*Condition 2*)
3. An approved noxious weed and vegetation control plan is required to be filed with the final plat for each phase. According to MCA 7-22-2152, any person proposing a development that needs state or local approval and that results in the potential for noxious weed infestation within a weed district shall notify the weed board at least 15 days prior to activity. Consequently, 15 days prior to activities requiring a revegetation plan, such as road construction, the plan shall be submitted to the weed board for approval by the board. The subdivider has proposed a provision in the covenants that the owners of each lot control noxious weeds. To mitigate impacts on the natural environment, a noxious weed control provision shall be included in the protective covenants filed with the final plat for this subdivision. (*Condition 2*)
4. The Ravalli County Environmental Health Department provided documentation indicating that they have received adequate information for local subdivision review to occur. (*Exhibit A-5*)
5. Individual wells and wastewater treatment systems are proposed to serve lots within the subdivision. A Certificate of Subdivision Plat Approval from Montana Department of Environmental Quality (DEQ) is required to be submitted with the final plat.
6. Sheafman Creek forms the southern property boundary of this subdivision. The application contains a floodplain waiver for Sheafman Creek, which was approved by the Ravalli County Floodplain Administrator on July 11, 2006. In the letter, the Floodplain Administrator recommends a 150-foot no-build/alteration zone from the ordinary high water mark of the creek. To mitigate impacts on the natural environment, a 150-foot no-build/alteration zone, excepting the internal subdivision road, shall be shown on the final plat. A notification of the no-build/alteration zone and a reduced copy of the final plat showing the location of the no-build zone shall be included in the notifications document and filed with the final plat. (*Conditions 1 and 10*) (*Exhibit A-2*)
7. The subdivider has requested a variance from the County road standards to allow Aaron's Way to be constructed to meet County standards for gravel roads. Dust generated from gravel roads has a negative impact on air quality. Staff has recommended conditional approval of the request, which will result in dust abatement on the road. (*Variance*)

Conclusion of Law:

Impacts from this subdivision on the natural environment will be reduced with the mitigating conditions and requirements of final plat approval.

CRITERION 5: EFFECTS ON WILDLIFE & WILDLIFE HABITAT

Findings of Fact:

1. A letter from Montana Fish, Wildlife, and Parks (FWP) recommends that the Living with Wildlife

- provisions be included with the covenants for this subdivision. (*Exhibit A-1*) (*Condition 2*)
2. The property is not located within big-game winter range, as identified by Montana Fish, Wildlife, and Parks.
 3. In a letter dated July 11, 2006, the Ravalli County Floodplain Administrator suggested the subdivider label 150-feet from the high water mark of Sheafman Creek as a no-build/alteration zone. (*Exhibit A-2*) As a requirement of final plat approval, a 150-foot no-build/alteration zone, excepting the internal subdivision road, shall be shown on the final plat. (*Conditions 1 and 10*)

Conclusion of Law:

With the mitigating conditions of approval and requirements of final plat approval, impacts on Wildlife & Wildlife Habitat will be reduced.

CRITERION 6: EFFECTS ON PUBLIC HEALTH & SAFETY

Findings of Fact:

1. To mitigate impacts on Public Health & Safety, the subdivider shall apply for County-issued addresses and a provision requiring property owners to post County-issued addresses at their driveways shall be in the covenants. (*Conditions 2 and 4*)
2. The proposed subdivision is located within the Corvallis Rural Fire District. Conditions 2, 5, and 6 address impacts to the District.
3. To mitigate the impacts of light pollution stemming from new construction, the protective covenants shall include a provision requiring full cut-off lighting with the exception of flag poles. (*Condition 2*)
4. There is a prevalence of radon in the County and to mitigate impacts on Public Health & Safety, the covenants shall include a statement regarding radon exposure. (*Condition 2*)
5. To mitigate impacts on local services and Public Health & Safety, a stop sign and road name sign shall be installed at the intersection of the internal subdivision road and Sheafman Creek prior to final plat approval. (*Condition 9*)
6. The Ravalli County Sheriff's Office provides services to this subdivision.
7. With the conditions and requirements of final plat and variance approval, access to the subdivision will be adequate for Public Health & Safety. (*Conditions 1, 2, 12, and 13*)
8. The preliminary plat and soils map indicate that the subdivision may have soils rated as severe for road and building construction. To educate property owners and to mitigate potential impacts of this subdivision on Public Health & Safety, a notification of the potential for severe soils shall be included in the notifications document filed with the final plat. A reduced plat showing the approximate locations of soils rated as severe for roads and building construction and descriptions of the severe soils in question shall be attached to the notifications document as an exhibit. (*Condition 1*)
9. Individual wells and wastewater treatment systems are proposed for lots within this subdivision. (*Natural Environment*)
10. To protect public health and safety, a no-ingress/egress zone shall be shown along the Sheafman Creek Road frontage of the subdivision. (*Condition 7*)
4. To mitigate impacts of Public Health & Safety, a notification of proximity to Sheafman Creek shall be included in the notifications document. (*Condition 1*)
5. To mitigate impacts on public health and safety, a no-build/alteration zone shall be shown on the final plat, as recommended by the Floodplain Administrator. The no build/alteration zone shall extend horizontally 150 feet from the ordinary high water mark of Sheafman Creek, excepting the internal subdivision road. A notification of the no-build/alteration zone shall be included with the notifications document. (*Conditions 1 and 10*)

Conclusion of Law:

The mitigating conditions and requirements of final plat approval will address impacts on Public Health & Safety.

COMPLIANCE WITH:

1) THE SURVEY REQUIREMENTS PROVIDED FOR IN PART 4 OF M.C.A. 76-3.

Finding of Fact:

The Seal of a Professional Land Surveyor or Engineer is required on all final plats, which states that the subdivision complies with part 4 of M.C.A. 76-3.

Conclusion of Law:

This proposal meets the survey requirements, or conditions have been required to bring the proposal into compliance.

2) THE LOCAL SUBDIVISION REGULATIONS PROVIDED FOR IN PART 5 OF M.C.A. 76-3.

Finding of Fact:

Subdivisions are required to comply with the local subdivision regulations provided for in part 5 of M.C.A. 76-3.

Conclusion of Law:

The subdivider has submitted a plan that complies with the requirements of local subdivision regulations, or conditions have been required that will bring the plan into compliance.

3) THE LOCAL SUBDIVISION REVIEW PROCEDURE PROVIDED FOR IN THE RAVALLI COUNTY SUBDIVISION REGULATIONS

Findings of Fact:

1. Subdivisions are required to comply with the local subdivision review procedure provided for in the Ravalli County Subdivision Regulations.
2. A decision of the governing body rejecting or approving a proposed subdivision may be appealed to the district court within thirty (30) days of such decision. The petition shall specify the grounds upon which the appeal is made. An appeal may be made by the subdivider; a landowner with a property boundary contiguous to the proposed subdivision or a private landowner with property within the unincorporated area of the county that can show a likelihood of material injury to the landowner's property or its value; a first class municipality if the subdivision is within three miles of its limits, a second class municipality if a subdivision is within two miles of its limits, or a third class municipality or town if the subdivision is within one mile of its limits. An aggrieved party means a person who can demonstrate a specific personal and legal interest, as distinguished from a general interest, who has been or is likely to be specially and injuriously affected by the decision.

Conclusion of Law:

This development plan proposal has followed the necessary application procedure and has been reviewed within the procedures provided in Chapter 3 of the Ravalli County Subdivision Regulations.

CONSISTENCY WITH EXISTING ZONING AND COVENANTS

Findings of Fact:

1. There are existing covenants on the property. (*Application*) The proposal appears to be consistent with existing covenants.
2. This property is not located within a zoning district.
3. The proposal complies with the interim zoning regulations.

Conclusions of Law:

1. The property appears to comply with existing covenants.
2. This proposal appears to comply with zoning.

PROVISION OF EASEMENTS FOR UTILITIES

Findings of Fact:

1. Utility easements are proposed along the internal subdivision roads.
2. According to the application, the proposed subdivision will be served by Ravalli Electric Cooperative and Qwest Telephone. Utility companies have been notified of the proposed subdivision. No comments have been received to date.
3. Utility certificates are a requirement of final plat approval.

Conclusion of Law:

Utility services are available to the subdivision.

PROVISION OF LEGAL AND PHYSICAL ACCESS

Finding of Fact:

Physical and legal access for this subdivision is proposed via Sheafman Creek Road, Fox Run Trail, and Aaron's Way. (*Local Services*)

Conclusion of Law:

With the conditions of approval, requirements of final plat approval and variance approval, the proposal meets physical and legal access requirements.

VARIANCE REPORT

VARIANCE REQUEST

Access to lots within the proposed subdivision is proposed via Sheafman Creek Road, Fox Run Trail, and Aaron's Way. Section 5-4-5(b)(1) of the RCSR requires the applicant to improve Aaron's Way to meet the road standards for a two lot subsequent minor subdivision, which includes paving. The applicant requested a variance from this section and is proposing to construct Aaron's Way to meet the road standards for a two-lot first minor subdivision, which allows for gravel instead of pavement. The applicant is also proposing to pave the entire portion of Fox Run Trail on the subject property. The applicant is only required to pave the portion of Fox Run Trail from Sheafman Creek Road to Aaron's Way (Section 5-4-5(a)(4)).

Compliance with Review Criteria

A. The granting of the variance will not be substantially detrimental to the public health, safety or general welfare or injurious to other adjoining properties.

Findings of Fact:

1. Section 5-4-5(b)(1) of the subdivision regulations states that roads serving two unit subdivisions are exempt from paving requirements, unless the subdivision is a subsequent minor. If the Fin and Feather, Lot 5, AP subdivision were not a subsequent minor, the subdivider would not be required to pave the internal subdivision road, Aaron's Way.
2. The Ravalli County Floodplain Regulations preclude the construction of asphalt surfaces within the 100-year floodplain of the Bitterroot River. If the internal subdivision road, Aaron's Way, were proposed in the floodplain of the Bitterroot River, the subdivider would not be allowed to pave it. The infers that paving Aaron's Way could have negative impacts on Public Health and Safety, and Sheafman Creek.
3. To ensure adequate features are in place and to protect Public Health & Safety, the following conditions shall be imposed: dust abatement shall be applied to Aaron's Way, once before final plat approval, and the Road Maintenance Agreement shall include a provision requiring dust abatement to be applied as needed. (*Conditions 12 and 13*)
4. The applicant could move the location of Aaron's Way to run along the north property boundary, but the impact of the existing driveway is already existing. Moving the location of Aaron's Way could create an impact in addition to what already exists.

Conclusion of Law:

With the mitigating conditions of approval, granting the variance will not be substantially detrimental to the public health, safety or general welfare or injurious to adjoining property owners.

B. The conditions on which the request for a variance is based are unique to the property on which the variance is sought and are not applicable generally to other property.

Findings of Fact

Because of the location of Sheafman Creek, there is little to no potential that Aaron's Way would ever serve more than two lots.

Conclusion of Law:

The conditions upon which the variance is proposed appear to be unique to the property.

C. Physical conditions, such as topography or parcel shape, prevent the subdivider from meeting the strict letter of these regulations. These conditions shall not result from the past actions of the land's current or previous owner(s).

Finding of Fact:

There may be negative impacts to public health and safety and Sheafman Creek from Paving Aaron's Way.

Conclusion of Law:

Physical conditions don't prevent the applicant from paving Aaron's Way, but the location of Sheafman Creek appears to make a gravel road better than a paved road.

D. The variance will not in any manner vary the provision of the zoning regulations or the Growth Policy.

Findings of Fact:

1. The application states the property is not within a voluntary zoning district and the proposal complies with the interim zoning regulations.
2. Relevant countywide provisions in the Ravalli County Growth Policy are outlined below. Provisions of the Ravalli County Growth Policy are followed by an analysis (bulleted points) of the variance request against these provisions.

Countywide Goal 2: Protect water quality and supply.

Countywide Policy 2.3: Encourage the protection of water quantity and quality, including the mitigation of adverse cumulative impacts.

- It is generally accepted that constructing impervious surfaces such as paved roads next to water resources, like creeks and streams, can have a detrimental effect upon those resources.

Countywide Goal 3: Protect air quality.

Countywide Policy 3.2: Continue to minimize dust and other air pollution by appropriate subdivision regulation.

- With the mitigating condition of approval, fugitive dust from the internal subdivision road will be minimized.

Conclusion of Law:

With the mitigating conditions, provisions in the Growth Policy appear to support granting the variance request.

E. The variance will not cause a substantial increase in public costs.

Findings of Fact:

1. The road will be privately maintained by the individual lot owners until such time as the County elects to assume maintenance responsibilities.
2. Mitigating conditions will prevent impacts of granting the variance on public costs. (Conditions 12 and 13)

Conclusion of Law:

With the recommended conditions, impacts of granting the variance on public costs have been addressed.



**Montana Fish,
Wildlife & Parks**

EXHIBIT A-1

Region 2 Office
3201 Spurgin Road
Missoula, MT 59804-3099
406-542-5500
Fax 406-542-5529
May 30, 2006

George Marshall
Alcyon, LLC
PO Box 218
Hamilton, MT 59840-0218

Dear Mr. Marshall:

Reference: Fin & Feather, Lot 5 (Crane)--Proposed minor (2 lots on 11.6 acres)
subdivision, one mile NW of Woodside

We have reviewed the preliminary plat for this proposed subdivision, and we offer the following comments.

Wildlife

Given the location of this proposed subdivision adjacent to Sheafman Creek and its riparian areas, and within one mile of the National Forest boundary, there is a good probability of human/wildlife interactions. In particular, wildlife such as white-tailed deer, elk, coyote, fox, skunk and magpie could be found in the area, as well as an occasional black bear and possible mountain lion. We believe that "living with wildlife" issues should be conveyed to future landowners for this subdivision as a development covenant, in order to help residents deal with and avoid potential wildlife issues. Attached is our recommended version of such covenants.

Fisheries

Our Bitterroot fisheries biologist, Chris Clancy, has seen brown trout spawning in lower Sheafman Creek near its confluence with Mill Creek. We assume there likely are other trout species in this area.

1. We did not see a building setback from Sheafman Creek on the plat. We recommend that this subdivision have a 100-foot "*no build setback*" along *each* side of Sheafman Creek, outward from the high-water marks. Additionally, within the first 50-feet from each side (high-water mark) of the creek we recommend a "no build/alteration buffer zone" with more restrictions, allowing only weed control, footpaths (i.e., non-motorized activities) and no riparian vegetation disturbance. The 100-foot "no build setback" should be clearly labeled on the plat.
2. We recommend requiring riparian covenants for this subdivision to control use of the area next to Sheafman Creek, in order to preserve water quality and functionality of a natural stream, protect riparian areas, and for protection of properties from eroding banks and possible flooding. Attached is our recommended wording for such guidelines.
3. Does this land currently have water rights to Sheafman Creek? If "yes," then will these water rights be used by the subdivision, and if so, for what purposes? Water rights have a specific beneficial use, and any current beneficial uses are likely for irrigation and/or stock water rights for agriculture. It would be erroneous to assume that these rights would be valid for other uses such as lawn and garden irrigation or fishponds. Presence or absence of water rights to Sheafman Creek should probably be addressed in the covenants. If no water rights exist for--or are not being transferred to--the properties, then the covenants should clearly state that water cannot be diverted from the stream for any use, and that residents should consult with the Montana Department of Natural Resources for questions on water rights.

Thank you for providing the opportunity for MFWP to comment on this subdivision.
(Please contact Sharon Rose at 542-5540; shrose@mt.gov if you would like an electronic version of these comments.)

Sincerely,

Mack Long
Regional Supervisor

ML/sr

C: Ravalli County Planning Department, 215 S. 4 St. Ste. F, Hamilton, MT 59840

Development Covenants for Fin & Feather, Lot 5 (Crane) subdivision, recommended by Montana Fish, Wildlife & Park; Missoula; May 30, 2006

Section __: Living with Wildlife

Homeowners must accept the responsibility of living with wildlife and must be responsible for protecting their vegetation from damage, confining their pets, and properly storing garbage, pet food, livestock feed and other potential attractants. Homeowners must be aware of potential problems associated with the occasional presence of wildlife such as deer, elk, black bear, mountain lion, coyote, fox, skunk, and magpie. Please contact the Montana Fish, Wildlife & Parks office in Missoula (3201 Spurgin Road, Missoula, MT 59804) for brochures that can help homeowners "live with wildlife." Alternatively, see FWP's web site at www.fwp.mt.gov.

The following covenants are designed to help minimize problems that homeowners could have with wildlife, as well as helping homeowners protect themselves, their property and the wildlife that Montanans value.

- a. Homeowners must be aware of the potential for **vegetation damage by wildlife**, particularly from deer feeding on green lawns, gardens, flowers, ornamental shrubs and trees in this subdivision. Homeowners should be prepared to take the responsibility to plant non-palatable vegetation or protect their vegetation (fencing, netting, repellents) in order to avoid problems. Also, consider landscaping with native vegetation that is less likely to suffer extensive feeding damage by deer.
- b. **Gardens and fruit trees** can attract wildlife such as deer and bears. Keep produce and fruit picked and off the ground, because rotting vegetable material can attract bears, skunks and other wildlife. To help keep wildlife such as deer out of gardens, fences should be 8 feet or taller. Netting over gardens can help deter birds from eating berries.
- c. **Garbage** should be stored in secure animal-resistant containers or indoors to avoid attracting animals such as bears, raccoons, and dogs. If stored indoors, garbage cans should not be set out until the morning of garbage pickup, and should be taken back indoors no later than the evening of garbage pickup.
- d. **Do not feed wildlife** or offer supplements (such as salt blocks), attractants, or bait for deer or other wildlife. Feeding wildlife results in unnatural concentrations of animals that could lead to overuse of vegetation and disease transmission. Such actions unnecessarily accustom wild animals to humans, which can be dangerous for both. It is against state law (MCA 87-3-130) to purposely or knowingly attract bears with supplemental food attractants (any food, garbage, or other attractant for game animals) or to provide supplemental feed attractants in a manner that results in "an artificial concentration of game animals that may potentially contribute to the transmission of disease or that constitutes a threat to public safety." Also,

homeowners must be aware that deer might occasionally attract mountain lions to the area.

- e. **Birdseed** is an attractant to bears. If used, bird feeders should: a) be suspended a minimum of 20 feet above ground level, b) be at least 4 feet from any support poles or points, and c) should be designed with a catch plate located below the feeder and fixed such that it collects the seed knocked off the feeder by feeding birds.
- f. **Pets** must be confined to the house, in a fenced yard, or in an outdoor kennel area when not under the immediate control of the owner, and not be allowed to roam as they can chase and kill big game and small birds and mammals. Under current state law it is illegal for dogs to chase hooved game animals and the owner may also be held guilty (MCA 87-3-124). Keeping pets confined also helps protect them from predatory wildlife.
- g. **Pet food and/or livestock feed** should be stored indoors, in closed sheds or in animal-resistant containers in order to avoid attracting wildlife such as bears, mountain lions, raccoons and skunks. **When feeding pets and/or livestock** do not leave food out overnight. Consider feeding pets indoors so that wild animals do not learn to associate food with your home.
- h. **Barbecue grills** should be stored indoors, and permanent outdoor barbecue grills are discouraged. Keep all portions of the barbecues clean. Food spills and smells on and near the grill can attract bears and other wildlife.
- i. Consider **boundary fencing** that is no higher than 3-1/2 feet (at the top rail or wire) and no lower than 18 inches (at the bottom rail or wire) in order to facilitate wildlife movement and help avoid animals such as deer and/or elk becoming entangled in the fence or injuring themselves when trying to jump the fence. We encourage the use of split rail fences.
- j. **Compost piles** can attract skunks and bear. If used they should be kept indoors or built to be wildlife-resistant. Compost piles should be limited to grass, leaves, and garden clippings, and piles should be turned regularly. Adding lime can reduce smells and help decomposition. Do not add food scraps. (Kitchen scraps could be composted indoors in a worm box with minimum odor and the finished compost can later be added to garden soil.)
- k. **Apiaries (bee hives)** could attract bears in this area. If used, please consult Montana Fish, Wildlife & Parks or the U.S. Fish & Wildlife Service for help in planning and constructing an apiary system that will help deter bears.
- l. These "living with wildlife" covenants cannot be altered or eliminated without consent of the governing body (county commissioners).

Section __: Riparian Area Use for Sheafman Creek

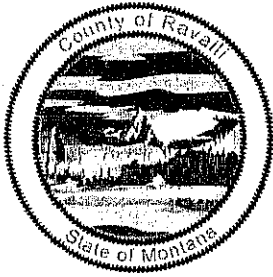
Healthy, naturally functioning riparian areas benefit fish and wildlife, as well as agriculture and recreation. The goal of the "no build setbacks" and the "no build/alteration buffer zones" along Sheafman Creek is to protect the stream and its associated riparian area. The following covenants (restrictions) are designed to help avoid damage to Sheafman Creek and its riparian areas, as well as possibly enhancing the stream area.

On each side of Sheafman Creek is a 100-foot "*no-build setback*" (zone) from the *high-water mark*. The first 50-feet outward from the creek's high water mark is additionally designated as a "*no-build/alteration buffer zone*." The following restrictions apply to the buffer zones and/or the entire 100-foot no-build setbacks, as listed:

1. No building, no new roads or alteration is allowed in the 50-foot buffer zones. Additionally, no buildings are allowed in the entire 100-foot no-build setback zones.
2. Only non-motorized access and use of the buffer zones is allowed (except for certain maintenance needs such as weed spraying).
3. Keep livestock out of Sheafman Creek and its buffer zones. Develop off-stream watering facilities (e.g., water troughs) for livestock, and use fences if necessary to keep livestock from trampling and grazing riparian vegetation. (See later covenant for wildlife friendly fence guidelines.)
4. Development of off-channel watering facilities cannot include water from Sheafman Creek if the lot(s) does not have valid water rights to the stream. If no water rights exist for, or have not been transferred to the property, then water cannot be diverted from the creek for any use. Residents should consult with the Montana Department of Natural Resources for questions on water rights.
5. Wildlife-friendly fence guidelines. a) For wooden rail fences: no more than 3 rails, with the bottom of the bottom rail at least 18" off the ground; top of the top rail no higher than 42" off the ground; b) For wire fences: use smooth wire, no more than 3 wires, top wire no higher than 42" off the ground and bottom wire at least 18" from the ground. These designs allow calf elk, fawn deer and other wildlife to crawl under the fencing, while allowing adult elk and deer to jump the fence.
6. Do not plant lawns in the buffer zone. Leave or plant native vegetation as ground cover as this avoids the use of fertilizers that contribute to water quality problems.
7. If planting is planned for the buffer zone, the goal should be to re-establish native plant species (grass, forbs, shrubs and/or trees) appropriate to the site.
8. It is illegal to modify the streambed or streambanks of a perennial stream without a "310" permit (Montana Natural Streambed and Land Preservation Act). Any stream crossings need to follow any and all local and/or state regulations relative to bridge/culvert construction materials/methods. Certain other actions near

Sheafman Creek may require state and/or federal permit(s). Contact the Bitterroot Conservation District office in Hamilton for further information.

9. In summary, allow riparian areas--the creek and its buffer zones--to remain undisturbed. Do not modify them unless such change would help return the area to a natural state.
10. These riparian covenants cannot be altered or eliminated without consent of the governing body (county commissioners).



Planning Department
215 South 4th Street, Suite F
Hamilton, MT 59840
Phone 406-375-6530
Fax 406-375-6531
planning@ravallicounty.mt.gov

OG-06-07-794

July 11, 2006

George Marshall
Alcyon, LLC
PO Box
Hamilton, MT 59840

EXHIBIT A-2

RE: Waiver of Floodplain Analysis for Fin & Feather Addition, Lot 5 AP
Parcel #44400, Geocode #1564-25-1-01-22-0000

Dear Mr. Marshall

We have completed our review for a waiver of the requirement for a full floodplain analysis according to Section 3-2-13 of the Ravalli County Subdivision Regulations for the above proposed subdivision. We have determined the following:

1. The confluence of Sheafman Creek and Mill Creek is approximately 485 horizontal feet east of the proposed subdivision.
2. The bench at the eastern portion of the parcel is approximately 10-15 vertical feet above Mill Creek as indicated by George Marshall in a letter dated April 13, 2006. The bank is well defined and indicates the probable extent of the Mill Creek Floodplain.
3. Sheafman Creek parallels the southern boundary of the parcel.
4. The banks on proposed lot 5A are not as well defined as proposed lot 5B. The channel is unconfined with a broad floodplain.
5. The estimated Sheafman Creek floodplain closely approximates the location of the severe soils identified on the preliminary plate dated April 13, 2006.
6. The above details were confirmed during site visit on July 7, 2006.

Given the close proximity of the proposed residential lots to Sheafman Creek, it is strongly recommended that all structures and utilities be located on the bench above the floodplain (north of the existing driveway). It is also suggested that a 150 foot no build/no alteration zone be established from the ordinary high water mark of Sheafman Creek.

Although the property is not located in the designated 100-year floodplain, we recommend the property owners obtain flood insurance due to the proximity of each of the creek's estimated 100-year floodplains. (The opportunity to obtain discounted flood insurance is a privilege of the citizens of Ravalli County as standard homeowner's insurance policies do not cover flood damages.)

Given the information cited above and the material presented in your application, we believe that it is reasonable to waive the requirement for a full floodplain analysis as outlined in Section 3-2-13. Consequently, your waiver request is granted for this project.

If you have any questions, please feel free to contact our office.

Sincerely,

A handwritten signature in cursive script that reads "Laura Hendrix". The signature is written in black ink and is positioned above the printed name and title.

Laura Hendrix, CFM
Ravalli County Floodplain Administrator

Cc: Correspondence File - General
Renee Van Hoven, Ravalli County Senior Planner
Tristan Riddell, Ravalli County Assistant Planner
Floodplain Waiver File

Corvallis School District #1

P.O. Box 700 / 1045 Main

Corvallis, MT 59828

Phone: (406) 961-4211

Fax: (406) 961-5144

RECEIVED

FEB 06

IC-07-02-138
Ravalli County Planning

Daniel B. Sybrant
Superintendent
961-4211

Trevor Laboski
Principal
High School
961-3201

Jason Wirt
Assistant Principal
High School
961-3201

Tom A. Miller
Principal
Middle School
961-3007

Rich Durgin
Assistant Principal
Middle School
961-3007

Janice Stranahan
Principal
Primary School
961-3261

Virginia Haines
Special Services
Director
961-3201

Russ Hendrickson
Technology
Coordinator
961-3201

Vannesa Bargfrede
Business Manager
District Clerk
961-4211

February 2, 2007

EXHIBIT A-3

Ravalli County Planning Office
215 South 4th Street
Suite F
Hamilton Mt 59840

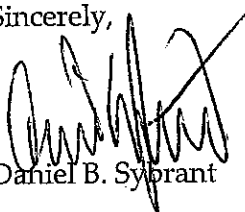
Dear Planning Department,

I have reviewed your letter in regards to the proposed minor subdivision. The minor subdivision is for a 2 lot subdivision off of Sheafman Creek Road, Fin and Feather, Lot 5 in Ravalli County.

We have no specific objection to this subdivision. As we have stated before, growth in student numbers continues to affect our district infrastructure and bussing system.

In general, we ask that appropriate student safety measures be considered when designing this subdivision. We also ask that you consider a reasonable per lot donation to the school district to help mitigate the impact on our school.

Sincerely,



Daniel B. Sybrant

dbs/lh



ROAD AND BRIDGE DEPARTMENT

244 FAIRGROUNDS ROAD

HAMILTON, MONTANA 59840

TELE: 406.363.2733 · FAX: 406.363.6701

RECEIVED

OCT 06 2006

1006-10-1588
Ravalli County Planning Dept.

EXHIBIT A-4

DATE 05 OCTOBER 2006
TO RAVALLI COUNTY PLANNING DEPARTMENT
FROM DAVID H. OHNSTAD, COUNTY ROAD SUPERVISOR
SUBJECT FIN & FEATHER PRELIMINARY DESIGN REVIEW

Attached please find analysis and comment from the Ravalli County consulting engineers relative to the preliminary design submittal for the proposed Fin and Feather subdivision project. The Road & Bridge Department will approve this preliminary design, with the understanding and expectation that those issues identified in the consulting engineer's report of 04 October 2006 will be addressed appropriately and completely through the final design process.

WGM GROUP, INC.

3021 Palmer • P.O. Box 16027 • Missoula, Montana 59808-6027



ENGINEERING
SURVEYING
PLANNING

(406) 728-4611
FAX: (406) 728-2476
wgmgroup.com

DATE: October 4, 2006
TO: David Ohnstad, Ravalli County Road & Bridge Department
CC: Ron Uemura, RAM Engineering
FROM: Jeremy W. Keene, P.E.
RE: Fin and Feather Preliminary Review Completion

On behalf of the Ravalli County Road and Bridge Department (RCRBD), we have completed our preliminary review of the above referenced project. Adequate road, grading, and drainage information has been submitted for the project. If the RCRBD is in concurrence with our review, please forward this letter to the Planning Office to be included with the full subdivision application.

A Preliminary Comment Memorandum was sent to the design engineer in accordance with Step 6 on the RCRBD's "Schedule of Activities – Processing & Coordination of Subdivision Projects" form. We are now sending this letter to your office in accordance with Step 7 of the RCRBD's Schedule of Activities to complete our preliminary review of the project.

We have included a copy of the following with this letter:

- 1) Preliminary comment memorandum from WGM Group, dated May 15, 2006.
- 2) Preliminary comment response memorandum from RAM Engineering, dated August 23, 2006, including all attachments.
- 3) WGM Group response memorandum to RAM Engineering comments, dated October 3, 2006.
- 4) RAM Engineering final response email, dated October 3, 2006.

This review is based on the 2004 version of the AASHTO Geometric Design of Highways and Streets, the 2001 version of the AASHTO Guidelines for Geometric Design of Very Low-Volume Local Roads (ADT<400), and the Ravalli County Subdivision Regulations.

Review of the plans and reports are limited to general conformance with the Ravalli County Subdivision Regulations in place at the time the subdivision application was submitted. This is not a complete or comprehensive review of the design assumptions or conclusions of the design professional who submitted the plans and reports. A final set of construction plans will need to be submitted by the developer for review by the RCRBD prior to beginning construction.

Thank you for the opportunity to work with the Ravalli County Road Department. If you have any questions, please contact our office.

To: Da
From: Ro
CC: Joh
Date: Aug
Re: Fin

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RAVALLI COUNTY ROAD & BRIDGE DEPARTMENT

SCHEDULE FOR ROADWAY DESIGN SUBMITTAL

DATE: 8/19/06	PROJECT DESIGNED BY: <i>RAM Engineering</i>
PROJECT NAME: <i>Fin & Feather Add., Lot 5 (Crane)</i>	PRELIMINARY REVIEW:
ROADWAY NAME: <i>Fox run Trail</i>	FINAL REVIEW: <i>X</i>
STATION OR LOCATION: <i>Within Lot 5A</i>	

PROPOSED DESIGN		REFERENCE
DESIGN ADT: <400	% TRUCKS: 10	<i>Based on 8 trips per lot (40 lots)</i>
DESIGN SPEED: 25	POSTED SPEED: 25	<i>Per Subdivision Regulations</i>
FUNCTIONAL CLASSIFICATION: <i>local road</i>		<i>Per Subdivision Regulations</i>
TERRAIN: FLAT <i>X</i> , ROLLING , HILLY		<i>Per topographic conditions</i>

GEOMETRICS - ALIGNMENT		REFERENCE
HORIZONTAL CURVATURE - MIN. RADIUS: 100' (n/a)		<i>Per Subdivision Regulations</i>
MAXIMUM DESIGN GRADE: 10% (3.3%)		<i>Per Subdivision Regulations</i>
MINIMUM STOPPING SIGHT DISTANCE: 155'		<i>Page 661, Policy Manual</i>
VERT. CURVATURE: CREST . SAG		<i>Page 381, Policy Manual</i>
SUPERELEVATION (%)		
INTERSECTION DESIGN: <i>T - plain</i>		<i>Page 560, Policy Manual</i>
INTERSECT. CASE TYPE: <i>B - Stop control/minor road</i>		<i>Page 46(G), Pages 650-664 (P)</i>
SIGHT TRIANGLE DIST. - A) 20.4' (32.4'), B) 280' (240')		<i>Page 46(G), Pages 650-664 (P)</i>
EASEMENT WIDTH: 60'		<i>Per Subdivision Regulations</i>
ROADWAY WIDTH - PAVT: 18' SHLDER: 2'		<i>Per Subdivision Regulations</i>
PARKING PROVIDED/ALLOWED - <i>No</i>		
BICYCLE/PEDESTRIAN FACILITIES - <i>No</i>		

STRUCTURAL - GEOTECHNICAL		REFERENCE
EXISTING SUBGRADE SOIL TYPE		<i>See attached pavement section</i>
EQUIVALENT SINGLE AXLE LOAD		<i>recommendations by Orion</i>
RESILIENT VALUE		<i>Engineering</i>
SUBBASE COURSE - TYPE:	DEPTH:	
BASE COURSE - TYPE:	DEPTH:	
SURFACE TYPE - ACP <i>X</i> ; BST ; OTHER		
SURFACE TYPE - DESIGN: <i>AC</i> DEPTH:		
STRUCTURAL NUMBER:		

NOTES:

May 5, 2006

Ron Uemura
RAM Engineering
P.O. Box 2130
Hamilton, MT 59840

RE: **Fin & Feather Addition Project** (*FOX RUN TRAIL / CRANE LANE*)
Pavement Section Recommendations
Hamilton, MT

Dear Mr. Uemura,

This letter summarizes our findings and recommendations for the above referenced project. This letter follows our investigation of the proposed development on April 17, 2006. The project consists of an evaluation and pavement section design of two existing gravel roads to Ravalli County standards. Our evaluation consisted of approximately 600-feet of the existing Crane Lane, and approximately 100-feet of the existing Fox Run Trail.

Scope of Work

We used the Orion drill to evaluate the existing roads by performing three (3) soil borings. We performed Standard Penetrometer Tests (SPT) and gathered representative samples. Boring locations are indicated on Figure 1.

Findings

Subsurface materials for the existing Crane Lane consisted of 2-inches of Poorly Graded Sand (SP-SM) road surfacing over Silty Sand (SM) and SP-SM. Although no groundwater was encountered during our investigation, there is a creek just south of existing road with aspen trees. The creek location is shown in Figure 1.

Pavement Design and Recommendations

Design methodologies considered the following:

1. The American Association of State Highway Officials (AASHTO) "Guide for Design of Pavement Structures" (1993), Chapter 4 – Low Volume Road Design.
2. The Army/Air Force "Pavement Design for Seasonal Frost Conditions" (1985), Air Force AFM 88-6, Chapter 4.
3. Tensar Earth Technologies, Inc. "SpectraPave2" Design Software (2002).

Based on the near surface materials encountered, the design subgrade for these paved areas will be Silty Sand (SM).

The magnitude and frequency of wheel load applications have been estimated based on anticipated traffic characteristics assuming the primary traffic being passenger cars and light trucks. Design variable input includes the following:

<i>Single Axle Loads</i>	18 kips
<i>Design Period (N)</i>	20 years
<i>Subgrade CBR</i>	10.0
<i>Reliability</i>	50%
<i>Traffic</i>	50,000 ESAL's
<i>Standard Deviation</i>	0.45
<i>Serviceability Loss</i>	2.2
<i>Drainage Coefficient</i>	1.0

Frost Heave Considerations:

The pavement section design considers frost heave effects.

Detrimental frost heave is manifested by non-uniform heave of road section materials during the winter, and the ensuing loss of strength of affected soils during the thaw period. Three conditions need to be present for frost heave to occur: frost susceptible soils (based on 0.05 mm particles), a water source, and freezing temperatures. Moisture movement in frozen soils makes insignificant contribution to frost heave. The heave is primarily due to crystallization of water molecules that migrate through a frost susceptible soil through negative pore pressure and capillary action, and tend to bond to an existing ice front. The result is creation of ice lenses that can develop to several inches in thickness.

For layered road design where frost heave conditions are present, the surface deformation due to ice lens formation, and the reduced supporting capacity of the road section during frost-melting periods, must be taken into account. Road structure design considering frost effects attempts to control road-surface distortion to an acceptable amount, by limiting one of the three conditions necessary for frost occurrence as discussed above.

For the Fin & Feather project, we are mitigating frost heave by eliminating frost-susceptible soils, and providing a capillary break with "filter gravel".

Excavation and Preparation:

There are varying depths of Silty Sand and Poorly Graded Sand fill existing roads. We recommend the exposed subgrade be compacted to 95% of AASHTO T-99 and tested before placing any fill. The ¾" base material should be compacted in maximum of 8-inch lifts. Our recommendations are contingent upon, and valid only if Orion Engineering is given the opportunity to inspect and approve (in written form) exposed subgrade conditions prior to fill placement.

Pavement Section Requirements:

The attached section view presented in Figure 2 indicates design requirements.

Pavement Section Material Specifications

All pavement section materials should be placed in 12" maximum uncompacted lifts and tested to 95% of AASHTO T-99 near optimum moisture content. The paved area should be specified as follows:

Flexible Asphalt:

Asphalt concrete pavement as specified in Montana Public Works Standard Specifications Section 02510.

Base Course:

¾" minus crushed as specified in Montana Public Works Standard Specifications Section 02235.

Subbase Course:

3" minus crushed as specified in Montana Public Works Standard Specifications Section 02234.

Filter Gravel:

1 ½" minus crushed
3% maximum passing #200 sieve

Fill:

Any fill required to establish grade should meet the following general requirements:

- 3" minus
- Maximum 12% minus No. 200
- Maximum Plasticity Index of 6
- 20-45% minus No. 4 sieve

Continuing Services

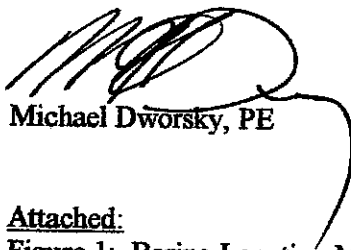
During the project design and development phase, our engineering staff should be involved on a limited basis to reduce the potential for misinterpretation of subsurface conditions or recommendations prior to preparation of plans, specifications, and bid documents.

Recommendations made in this report are based on adequate tests and observations during construction to verify compliance with recommendations. Minimum observation and testing should include, but not necessarily be limited to the following:

1. Approval of exposed subgrade materials and conditions following excavation and prior to fill or concrete placement.
2. Approval of proposed fill material prior to placement.
3. Verification of fill material compaction requirements during construction.

If you have any questions, please call at 543-3100. We value the opportunity to be of service.

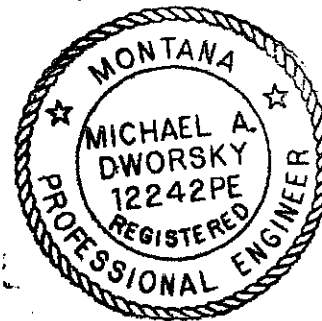
Sincerely,
Orion Engineering, Inc.

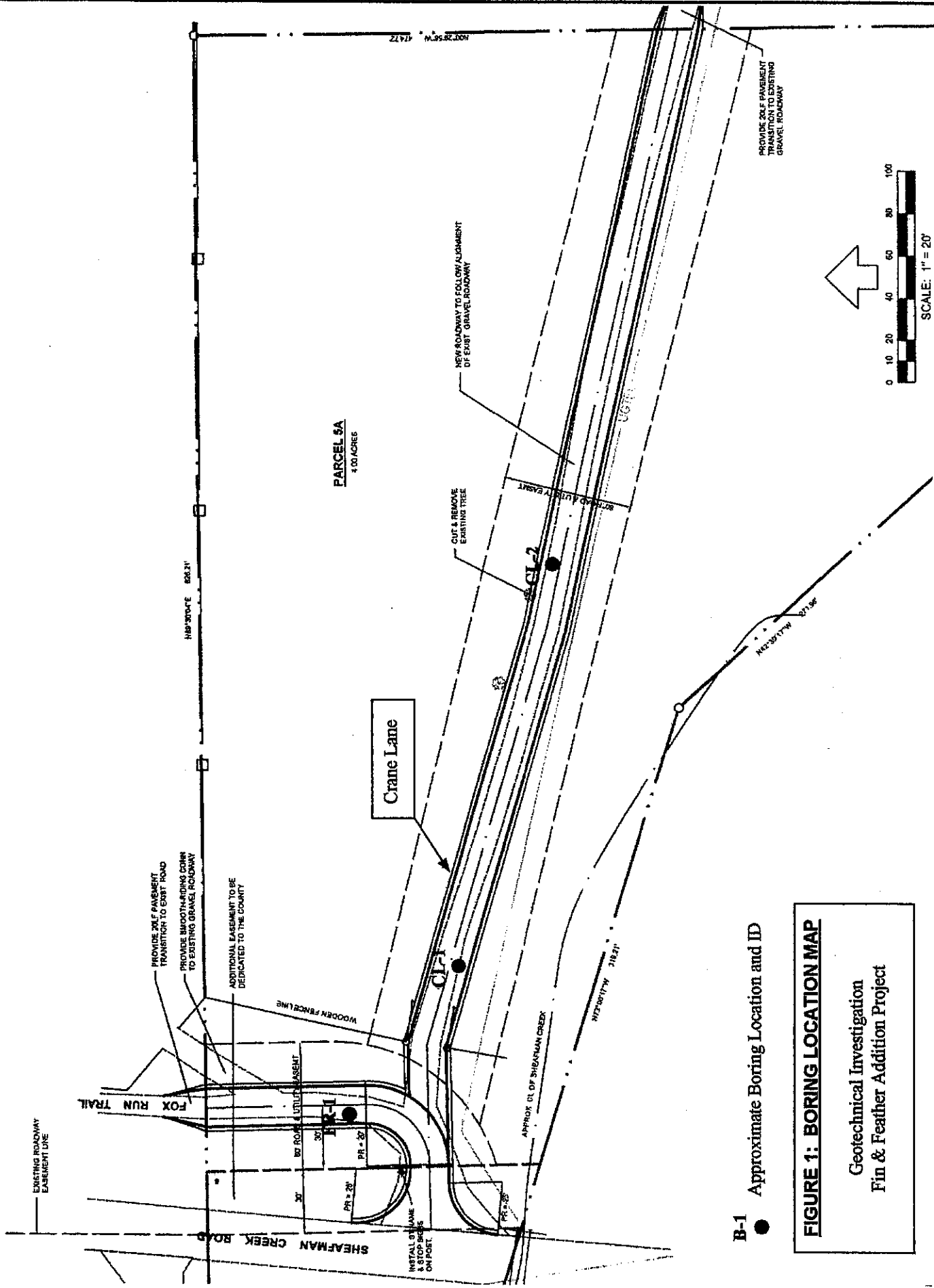


Michael Dworsky, PE

Attached:

Figure 1: Boring Location Map
Figure 2: Required Pavement Section
Boring Logs



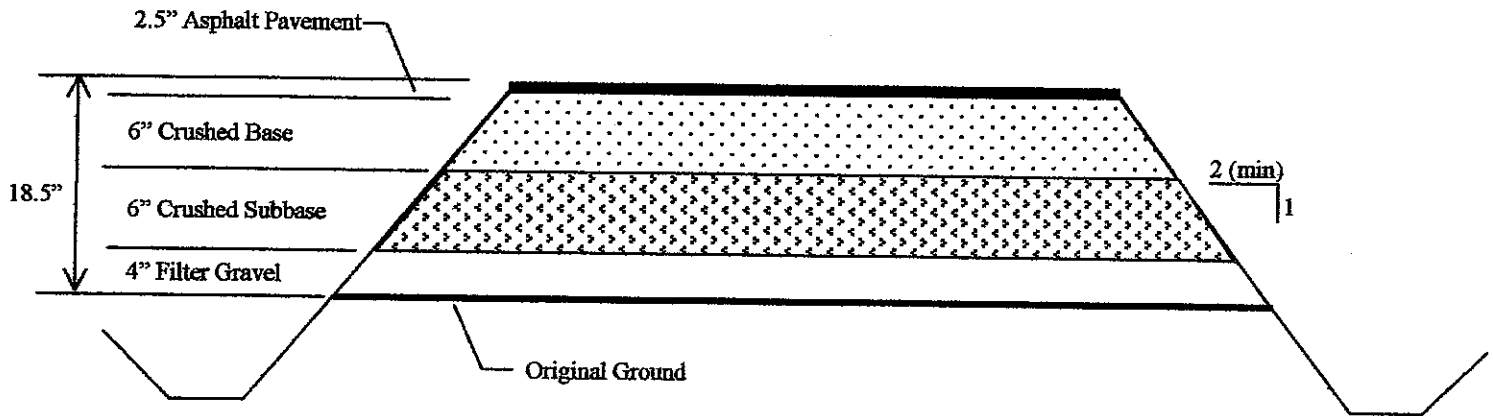


B-1 Approximate Boring Location and ID

FIGURE 1: BORING LOCATION MAP
 Geotechnical Investigation
 Fin & Feather Addition Project

Figure 2: Required Pavement Section

Orion Engineering, Inc.
Fin & Feather Addition Project
(Not-to-Scale)





2614 Murphy Street, Missoula MT 59808

406-543-3100 (ph) 406-721-6629 (fax)

orioneng.net

6 in H-S AUGER

8 in H-S AUGER

NQ CORE

HQ CORE

OTHER:



BEGAN: 4/17/06



COMPLETED: 4/17/06





DRILL: Burley 2400



DRILLER: Dworsky/Orion Eng.

WEATHER: Cloudy, 35 deg

BORING LOG (English Units)

DEPTH (ft)	DESCRIPTION	GRAPHIC LOG	SAMPLE #	SAMPLE	BLOW COUNT	▼ WATER CONTENT (%)			DEPTH (ft)	
						PLASTIC LIMIT — LIQUID LIMIT				
						● SAMPLE PENETRATION RESISTANCE BLOWS PER FOOT (140 lb mass, 30 in drop)				
	ELEV:					0	20	40	60	
0.2	Damp, medium dense, brown POORLY GRADED SAND (SP-SM) with 20-30% 1/2" minus subrounded to subangular gravel. (Existing road surfacing) Thickness = 2.0 Inches		S1	12-5-6						0
	Damp, medium dense, dark brown SILTY SAND (SM) with < 10% 2" minus subrounded gravel and some organics, slightly plastic.									
2.0	Damp, medium dense, tan POORLY GRADED SAND (SP-SM) with 10-20% 3" minus subrounded gravel and some cobbles.		R1							2
	<u>Note:</u> Material is firm during drilling.									
4.0	END BORING AT 4.0-FEET									4
	No evidence of groundwater encountered.									5
										6
										7
										8
										9
										10

I 1.7 in O.D. SPLIT TUBE SAMPLE

II 2 in O.D. SPLIT TUBE SAMPLE (SPT)

III 3.2 in O.D. SPLIT TUBE SAMPLE (D & M)

I 3 in SHELBY TUBE

I AUGER

CORE

WATER LEVEL

0 50 100

RQD (%)

RECOVERY (%)

PROJECT: Fin and Feather Addition: Hamilton, Montana

LOCATION: See Boring Location Map

BORING CL-1

Sheet 1 of 1

LEE 060126 GPJ ORION GDT 5/5/06

8 in H-S AUGER
NQ CORE
HQ CORE
OTHER:

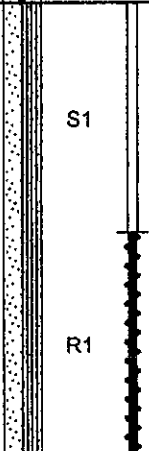
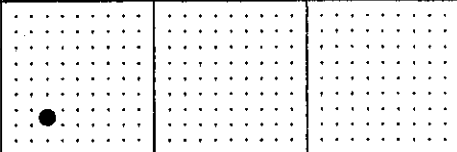
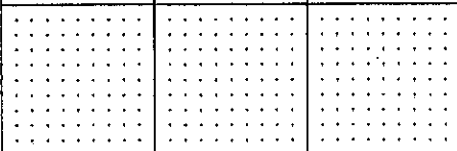
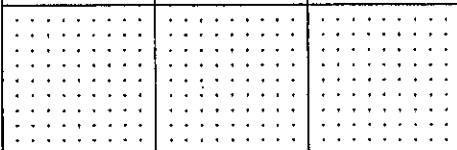
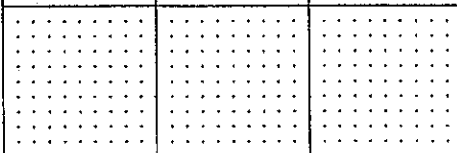
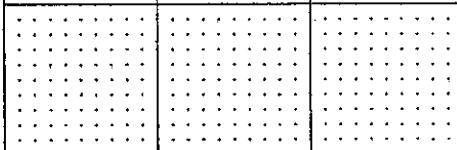
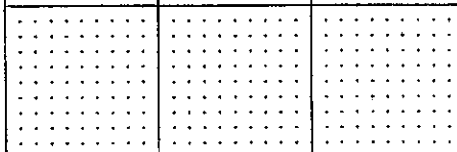
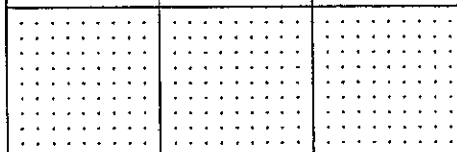
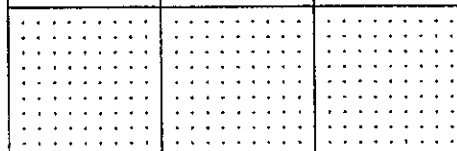
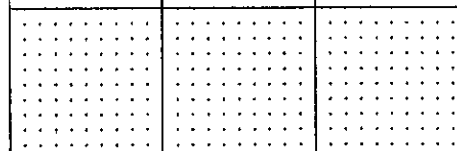
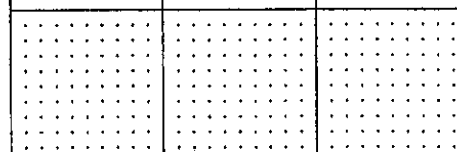

COMPLETED: 4/17/06
DRILL: Burley 2400
DRILLER: Dworsky/Orion Eng.
WEATHER: Cloudy, 35 deg

BORING LOG (English Units)

DEPTH (ft)	DESCRIPTION	GRAPHIC LOG	SAMPLE #	SAMPLE	BLOW COUNT	▼ WATER CONTENT (%)		DEPTH (ft)
						PLASTIC LIMIT	LIQUID LIMIT	
	ELEV:					● SAMPLE PENETRATION RESISTANCE BLOWS PER FOOT (140 lb mass, 30 in drop)		
0.2	Damp, medium dense, brown POORLY GRADED SAND (SP-SM) with 20-30% 1/2" minus subrounded to subangular gravel. (Existing road surfacing) Thickness = 2.0 Inches					0	20	40
1.0	Damp, medium dense, dark brown SILTY SAND (SM) with < 10% 3" minus subrounded gravel and some organics, non-plastic. <u>Note:</u> Some frozen material top 1.0-foot. Damp, medium dense, tan POORLY GRADED SAND (SP-SM) with 10-20% 3" minus subrounded gravel and some cobbles. <u>Note:</u> Material is firm during drilling.		S1		11-10-13			1
3.5	END BORING AT 3.5-FEET No evidence of groundwater encountered.		R1					2
								3
								4
								5
								6
								7
								8
								9
								10

I 1.7 in O.D. SPLIT TUBE SAMPLE	II 2 in O.D. SPLIT TUBE SAMPLE (SPT)	III 3.2 in O.D. SPLIT TUBE SAMPLE (D & M)	IV 3 in SHELBY TUBE	V AUGER	VI CORE	VII WATER LEVEL	VIII RQD (%)	IX RECOVERY (%)
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BORING LOG (English Units)

DEPTH (ft)	DESCRIPTION	GRAPHIC LOG	SAMPLE #	SAMPLE	BLOW COUNT	▼ WATER CONTENT (%)				DEPTH (ft)
						PLASTIC LIMIT — LIQUID LIMIT				
						● SAMPLE PENETRATION RESISTANCE BLOWS PER FOOT (140 lb mass, 30 in drop)				
	ELEV:					0	20	40	60	
0	Damp, loose, tan POORLY GRADED SAND (SP-SM) with 10-20% 2" minus subrounded gravel.		S1	7-3-3					0	
									1	
									2	
3.0	END BORING AT 3.0- FEET									3
	No evidence of groundwater encountered.									4
										5
										6
										7
										8
										9
										10

I 1.7 in O.D. SPLIT TUBE SAMPLE

I 3 in SHELBY TUBE

▽ WATER LEVEL

II 2 in O.D. SPLIT TUBE SAMPLE (SPT)

I AUGER

III 3.2 in O.D. SPLIT TUBE SAMPLE (D & M)

☒ CORE

☒ RQD (%)

☒ RECOVERY (%)

PROJECT: Fin and Feather Addition: Hamilton, Montana

LOCATION: See Boring Location Map

BORING FR-1

Sheet 1 of 1

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3021 Palmer • PO Box 16027 • Missoula, MT 59808-6027

ENGINEERING
SURVEYING
PLANNING

Phone: (406)728-4611
Fax: (406)728-2476
www.wgmgroup.com

DATE: October 3, 2006
TO: Ron Uemura, RAM Engineering
CC: David Ohnstad, Ravalli County Road & Bridge Department
FROM: Jeremy W. Keene, P.E.
RE: Fin and Feather Response to Design Engineer Comments

On behalf of the Ravalli County Road and Bridge Department (RCRBD), our office has reviewed your response to our initial preliminary review comments for the above-referenced subdivision. This review memorandum is part of Step 6 on the RCRBD's "Schedule of Activities – Processing & Coordination of Subdivision Projects" form. This review is based upon the Ravalli County subdivision regulations, the 2004 version of the AASHTO Geometric Design of Highways and Streets and the 2001 version of the AASHTO Guidelines for Geometric Design of Very Low-Volume Local Roads (ADT<400).

Preliminary review comments have been addressed with the following exception. (The number used below references the comment from the initial preliminary comment memorandum.)

Roadways

4. An evaluation of the intersection sight distance is needed. The sight triangle distances provided on the design schedule extend beyond the limits of the plans. Please show sight triangles on a plan sheet, or provide a statement that intersection sight distance is met.

Please respond to this comment as outlined in Step 6 of the "Schedule of Activities – Processing & Coordination of Subdivision Projects" from the RCRBD. Thank you.

Cindy Kuns

From: Ronald M. Uemura [ramengineer@hotmail.com]
Sent: Tuesday, October 03, 2006 7:09 PM
To: Cindy Kuns; Jeremy Keene
Cc: dohnstad@ravallicounty.mt.gov
Subject: RE: Fin and Feather

This is in response to your review comments dated October 3, 2006 -

As indicated on the drawing submitted, the subject intersection is at right angles to Sheafman Creek Road. Sheafman Creek Road also slopes upwards from the intersection northward for a distance of about 480' to the crest of the hill. Sheafman Creek Road slopes southward at a relatively flat grade (1-5%). There are no existing obstructions to the sight triangle and the intersection clearly meets the minimum sight distance required.

Please call if you should have any questions.

Ronald M. Uemura, PE
RAM Engineering
PO Box 2130
Hamilton, MT 59840
Ph. (406) 360-4238
Fax (406) 363-1880

From: "Cindy Kuns" <CKuns@wgmgroup.com>
To: <RAMEngineer@hotmail.com>
CC: "David Ohnstad" <dohnstad@ravallicounty.mt.gov>
Subject: *Fin and Feather*
Date: Tue, 3 Oct 2006 10:26:11 -0600

We have completed a review of your response to our initial preliminary review comments. Please find our response attached.

Cindy Kuns
Project Assistant
WGM Group, Inc.
(406) 728-4611, ext. 120

><< ResponsetoEngComments.pdf >>

10/4/2006

SUBDIVISION APPLICATION PACKET CHECKLIST - Water and Sanitation Information Per MCA 76-3-622

Name of Subdivision: *FIN & FEATHER ADDITION, LOT 5, 99*Subdivider/Landowner Name(s): *JOHN & JULIE CRANE*Consultant Name: *RON REMORA (RPM)*

EXHIBIT A-5

Date Received: *3-6-06*

Sufficiency Review Due Date:

Yes	No	N/A	Item	Additional Information/Staff comments
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(1) Unless the land division is excluded from review under 76-4-125(2), the subdivider shall submit to the information listed below for proposed subdivisions that will include new water supply or wastewater facilities.

<input checked="" type="checkbox"/>			Provide two copies of the following information with a check paid to RCEHD for their \$50.00 sufficiency review fee.	
<input checked="" type="checkbox"/>			(a) Vicinity Map or Plan	
<input checked="" type="checkbox"/>			(i) The location, within 100 feet outside of the exterior property line of the subdivision and on the proposed lots, of:	
<input checked="" type="checkbox"/>			(A) flood plains	
<input checked="" type="checkbox"/>			(B) surface water features	
<input checked="" type="checkbox"/>			(C) springs	
<input checked="" type="checkbox"/>			(D) irrigation ditches	
<input checked="" type="checkbox"/>			(E) existing, previously approved, and, for parcels less than 20 acres, proposed water wells and wastewater treatment systems	
<input checked="" type="checkbox"/>			(F) for parcels less than 20 acres, mixing zones identified as provided in subsection (1)(g);	
<input checked="" type="checkbox"/>			(G) the representative drainfield site used for the soil profile description as required under subsection (1)(d)	
<input checked="" type="checkbox"/>			(ii) The location, within 500 feet outside of the exterior property line of the subdivision, of public water and sewer facilities	
<input checked="" type="checkbox"/>			(b) A description of the proposed subdivision's water supply systems, storm water systems, solid waste disposal systems, and wastewater treatment systems, including whether the water supply and wastewater treatment systems are individual, shared, multiple user, or public as those systems are defined in rules published by DEQ.	
<input checked="" type="checkbox"/>			(c) A drawing of the conceptual lot layout at a scale no smaller than 1" = 200' that shows all information required for a lot layout document in rules adopted by the DEQ pursuant to 76-4-104.	



Yes	No	N/A	Item	Additional Information/Staff comments
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(d) Evidence of suitability for new onsite wastewater treatment systems that, at a minimum, includes:	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(i) A soil profile description from a representative drainfield site identified on the vicinity map, as provided in subsection (1)(a)(i)(G), that complies with standards published by DEQ.	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(ii) Demonstration that the soil profile contains a minimum of 4 feet of vertical separation distance between the bottom of the permeable surface of the proposed wastewater treatment system and a limiting layer.	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(iii) In cases in which the soil profile or other information indicates that ground water is within 7 feet of the natural ground surface, evidence that the ground water will not exceed the minimum vertical separation distance provided in subsection (1)(d)(ii);	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(e) For new water supply systems, unless cisterns are proposed, evidence of adequate water availability:	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(i) obtained from well logs or testing of onsite or nearby wells;	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(ii) obtained from information contained in published hydrogeological reports; <u>OR</u>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(iii) as otherwise specified by rules adopted by DEQ pursuant to 76-4-104;	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(f) Evidence of sufficient water quality in accordance with rules adopted by DEQ pursuant to 76-4-104;	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(g) A preliminary analysis of potential impacts to ground water quality from new wastewater treatment systems, using as guidance rules adopted by the board of environmental review pursuant to 75-5-301 and 75-5-303 related to standard mixing zones for ground water, source specific mixing zones, and nonsignificant changes in water quality.	The preliminary analysis may be based on currently available information and must consider the effects of overlapping mixing zones from proposed and existing wastewater treatment systems within and directly adjacent to the subdivision. Instead of performing the preliminary analysis required under this subsection (1)(g), the subdivider may perform a complete nondegradation analysis in the same manner as is required for an application that is reviewed under Title 76, chapter 4.



the 1990s, the number of people in the world who are under 15 years of age is expected to increase by 1.5 billion, from 1.1 billion in 1990 to 2.6 billion in 2010. The number of people aged 65 and over is expected to increase by 1.1 billion, from 350 million in 1990 to 1.4 billion in 2010. The number of people aged 15-64 is expected to increase by 1.5 billion, from 2.5 billion in 1990 to 4.0 billion in 2010. The number of people aged 65 and over is expected to increase by 1.1 billion, from 350 million in 1990 to 1.4 billion in 2010. The number of people aged 15-64 is expected to increase by 1.5 billion, from 2.5 billion in 1990 to 4.0 billion in 2010.